Analysis of the 12 February 2010 North Central Gulf Coast Heavy Snow Event

John Werner and Jason Beaman

WFO Mobile

On 12 February 2010 a rare swath of wet, heavy snow fell over a large part of the Deep South, including portions of southeast Mississippi, southwest Alabama and the western Florida panhandle. Total snowfall accumulations ranged from a trace near the coastline to a maximum of seven inches over interior southwest Alabama. This event was the greatest one day February snowfall at 10 of 20 observation sites, and the 2nd greatest at nine of the sites. At 13 of the sites it was one of the top three one day snowfalls of all time.

Forecasting this rare event and eliciting the appropriate public response presented unique challenges. This presentation will examine both the synoptic and mesoscale evolution of the event, and also indicate significant forecast inconsistencies that existed among the various numerical guidance models. For example, the models varied greatly in the initial location and track of the surface low. Even as the models began to resolve the track of the surface low with some consistency, they projected deep isothermal, near freezing temperature profiles and borderline critical thickness values. This resulted in questionable precipitation type and intensity guidance, with little chance of significant snowfall accumulations indicated. Despite these challenges, forecasters alerted the public several days ahead of the event, posting a Winter Storm Watch two days in advance and issuing a Winter Storm Warning 24 hours prior to the storm.

Despite ample lead time, a major challenge in forecasting a rare event of this magnitude is getting the public to first believe the threat and then take action to mitigate the impacts. This presentation will review the decision support tools used by NWS Mobile staff to engage key partners and the public, providing them with the information needed to take action to reduce the impacts of this rare winter storm.